

METHOD AND STRUCTURE FOR VERTICAL DRAM DEVICES WITH SELF-ALIGNED UPPER TRENCH SHAPING

Abstract

A method and structure for a memory storage cell in a semiconductor substrate includes forming a dopant source material over a lower portion of a deep trench formed in the substrate. An upper portion of the trench is shaped to a generally rectangular configuration, and the dopant source material is annealed so as to form a buried plate of a trench capacitor. The buried plate is self aligned to the shaped upper portion of the trench.